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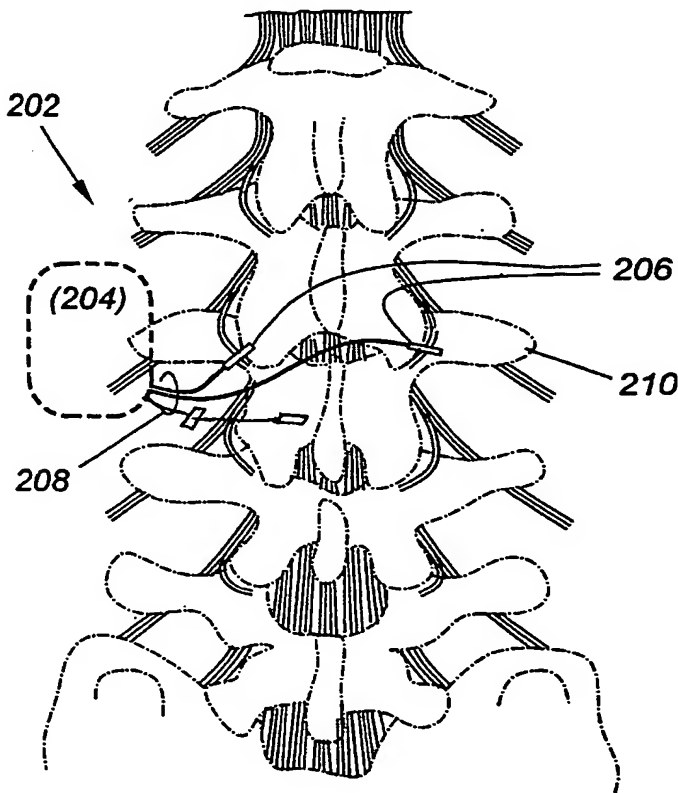
(43) International Publication Date
28 December 2000 (28.12.2000)

PCT

(10) International Publication Number
WO 00/78389 A1

- (51) International Patent Classification⁷: **A61N 1/34**
- (21) International Application Number: **PCT/US00/00544**
- (22) International Filing Date: 10 January 2000 (10.01.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/336,241 18 June 1999 (18.06.1999) US
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- (81) Designated States (*national*): AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— With international search report.
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **NERVE STIMULATION METHOD AND APPARATUS FOR PAIN RELIEF**



(57) Abstract: Methods, and apparatus are disclosed for stimulating the central, peripheral, and autonomic with particular attention being given to the medial branch (210) of the spinal nerve (212) associated with a painful spinal facet joint so as to block pain impulses from reaching the spinal cord. The preferred apparatus includes a neurostimulator (204), and two or more electrodes (206) which carry electrical pulses to the target nerves. The impulses are intense enough to cause stimulation of a given medial branch (210), and its articular branches, but not so large as to spread to the spinal cord itself. In the preferred embodiment the stimulator (204) is physically small and battery operated facilitating implantation underneath the skin. The stimulator (204) includes a controller (not shown), and appropriate electronics operative to generate electrical impulses tailored to an individual's need for appropriate pain relief in terms of pulse frequency, pulse width, and pulse amplitude. In an alternative embodiment, the stimulator (204) further includes electrodes (206), and electrical circuitry operative to monitor myoelectrical activity generated by the surrounding muscles, and modulate the impulses generated by the stimulator to meet the demands of the individual's activity and/or prolong battery life.

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